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# Tuna Newsletter

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- Southwest Region
- Southwest Fisheries Science Center

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# U.S. TUNA STATISTICS

*Editor's note: The following articles were prepared by NMFS personnel from data and information gathered from sources in the U.S. tuna industry and government.*

## U.S. CANNED TUNA INDUSTRY HIGHLIGHTS, SECOND QUARTER 1994

Total receipts of tuna by U.S. canners during the second quarter of 1994 (April-June) decreased by 11% to the equivalent of 103,700 short tons (st) of whole fish (round weight), compared to the second quarter of 1993 (Table 1). The principal species received was skipjack tuna with 50% of the total, followed by albacore and yellowfin tuna, each with 25% of the total. Albacore and yellowfin tuna receipts were each up by 2% for the quarter, while skipjack tuna receipts were down by 21%.

Receipts for the first two quarters of 1994 totaled 213,100 st, up less than 1% from the previous year (Table 2). Yellowfin tuna and albacore receipts were up by 20% and 16%, respectively, while skipjack tuna receipts were down by 13%.

Although the vast majority of tuna received by U.S. canners is whole fish, some quantity is received as loins or gilled-and-gutted. Receipts of tuna loins for the second quarter of 1994 were up by 19%, while receipts of loins for the first two quarters were up by 53%. (The round weight totals used above were approximated by converting weights of loins and gilled-and-gutted receipts by factors of 2.25 and 1.11, respectively. For the remainder of this article, unconverted receipts are used unless otherwise stated.)

**Table 1.** Total U.S. cannery receipts (st) by species for the second quarters of 1993 and 1994. Totals may not add due to rounding.

| Apr-Jun | Type | Albacore | Skipjack | Yellowfin[1] | TOTAL |
|---|---|---|---|---|---|
| 1993 | ROUND | 24,500 | 57,900 | 20,800 | 103,200 |
| | GILLED & GUTTED | 0 | 0 | 1,100 | 1,100 |
| | LOIN | 400 | 3,500 | 1,300 | 5,300 |
| | TOTAL (as received) | 24,900 | 61,500 | 23,200 | 109,600 |
| | TOTAL (estimated round wt)[2] | 25,500 | 65,900 | 24,900 | 116,300 |
| 1994 | ROUND | 25,900 | 45,200 | 18,300 | 89,400 |
| | GILLED & GUTTED | 0 | 0 | 200 | 200 |
| | LOIN | * | 3,100 | 3,100 | 6,300 |
| | TOTAL (as received) | 25,900 | 48,300 | 21,600 | 95,800 |
| | TOTAL (estimated round wt)[2] | 26,000 | 52,200 | 25,500 | 103,700 |

*Less than 100 st reported for this category.

[1]May include a small amount of bigeye tuna.

[2]Converted to round weight by using factors of 1.11 for gilled-and-gutted and 2.25 for loins.

**Table 2.** Total U.S. cannery receipts (st) by species for the first two quarters of 1993 and 1994. Totals may not add due to rounding.

| Apr-Jun | Source | Albacore | Skipjack | Yellowfin[1] | TOTAL |
|---|---|---|---|---|---|
| 1993 | ROUND | 43,300 | 107,800 | 39,200 | 190,300 |
| | GILLED & GUTTED | * | * | 1,400 | 1,400 |
| | LOIN | 400 | 6,300 | 2,300 | 9,000 |
| | TOTAL (as received) | 43,800 | 114,200 | 42,800 | 200,800 |
| | TOTAL (estimated round wt)[2] | 44,300 | 122,100 | 45,800 | 212,200 |
| 1994 | ROUND | 51,500 | 91,400 | 38,600 | 181,600 |
| | GILLED & GUTTED | * | * | 400 | 400 |
| | LOIN | * | 6,800 | 7,000 | 13,800 |
| | TOTAL (as received) | 51,500 | 98,300 | 46,000 | 195,800 |
| | TOTAL (estimated round wt)[2] | 51,600 | 106,800 | 54,800 | 213,100 |

*Less than 100 st reported for this category.

[1]May include a small amount of bigeye tuna.

[2]Converted to round weight by using factors of 1.11 for gilled-and-gutted and 2.25 for loins.

**Table 3.** U.S. cannery receipts (st) of domestic and imported tuna by species for the second quarters of 1993, 1994 and the recent (1989-93) second quarter averages. Totals may not add due to rounding.

| Apr-Jun | Source | Albacore | Skipjack | Yellowfin[1] | TOTAL |
|---|---|---|---|---|---|
| AMERICAN SAMOA & CALIFORNIA | | | | | |
| 1993 | DOMESTIC | 500 | 27,800 | 11,200 | 39,600 |
| | IMPORTED | 7,000 | 8,200 | 2,700 | 17,900 |
| | TOTAL | 7,500 | 36,100 | 13,900 | 57,500 |
| 1994 | DOMESTIC | 500 | 26,100 | 4,100 | 30,700 |
| | IMPORTED | 7,800 | 6,500 | 3,800 | 18,200 |
| | TOTAL | 8,300 | 32,700 | 7,900 | 48,900 |
| 1989-93 Average | DOMESTIC | 1,100 | 23,400 | 13,300 | 37,800 |
| | IMPORTED | 6,000 | 11,600 | 4,700 | 22,400 |
| | TOTAL | 7,100 | 35,100 | 18,100 | 60,200 |
| PUERTO RICO | | | | | |
| 1993 | DOMESTIC | 0 | 8,300 | 1,400 | 9,600 |
| | IMPORTED | 17,400 | 17,100 | 7,900 | 42,400 |
| | TOTAL | 17,400 | 25,400 | 9,300 | 52,100 |
| 1994 | DOMESTIC | * | 6,700 | 3,900 | 10,600 |
| | IMPORTED | 17,700 | 8,900 | 9,800 | 36,400 |
| | TOTAL | 17,700 | 15,700 | 13,700 | 47,000 |
| 1989-93 Average | DOMESTIC | 100 | 5,900 | 7,700 | 13,700 |
| | IMPORTED | 18,600 | 18,900 | 11,400 | 48,900 |
| | TOTAL | 18,700 | 24,900 | 19,000 | 62,600 |
| TOTAL | | | | | |
| 1993 | DOMESTIC | 500 | 36,100 | 12,600 | 49,200 |
| | IMPORTED | 24,400 | 25,300 | 10,600 | 60,400 |
| | TOTAL | 24,900 | 61,500 | 23,200 | 109,600 |
| 1994 | DOMESTIC | 500 | 32,900 | 8,000 | 41,300 |
| | IMPORTED | 25,500 | 15,500 | 13,600 | 54,500 |
| | TOTAL | 25,900 | 48,300 | 21,600 | 95,800 |
| 1989-93 Average | DOMESTIC | 1,200 | 29,400 | 21,000 | 51,500 |
| | IMPORTED | 24,700 | 30,600 | 16,100 | 71,300 |
| | TOTAL | 25,800 | 59,900 | 37,100 | 122,800 |

*Less than 100 st reported for this category.

[1]May include a small amount of bigeye tuna.

Receipts of tuna in American Samoa and California for the second quarter of 1994 were down by 15%, compared to the second quarter of 1993, with decreases in skipjack and yellowfin tuna receipts more than offsetting an increase in albacore receipts (Table 3). Total receipts in Puerto Rico were down by 10%, primarily due to a 38% decline in skipjack tuna receipts.

Domestic deliveries to U.S. canners for the first two quarters of 1994 decreased by 16%, while imported deliveries increased by 12% (Table 4). Skipjack tuna was easily the largest component of all domestic deliveries at 66,700 st, followed by yellowfin tuna, 18,200 st, and albacore, 800 st. Domestic deliveries accounted for 44% of the tuna delivered to U.S. canners.

Albacore was the leading import for the second quarter of 1994 at 25,500 st, followed by skipjack and yellowfin tuna at 15,500 st and 13,600 st, respectively (Table 5). The leading supplier was Taiwan, with 31% of the import market, followed by France and Japan, with 21% and 11% of the market, respectively. The western Pacific Ocean was the main source of all three important tuna species (Table 6): skipjack tuna (36,500 st), albacore (10,200 st) and yellowfin tuna (8,200 st).

Contract prices for domestically caught tuna delivered to U.S. canners in the second quarter of 1994, normally announced by the American Tuna Sales Association, were not available at press time. It has been reported that one major canner no longer intends to negotiate a monthly price with the ATSA, but will buy fish on a "spot" or load basis with prices negotiated accordingly. Another canner has continued to negotiate prices through the ATSA with its contract boats, but the ATSA will not announce these prices.

U.S. imports of canned tuna packed in water totaled 18,500 st for the second quarter of 1994, up 25% from 1993. For the first six months

**Table 4.** U.S. cannery receipts (st) of domestic and imported tuna by species for the first two quarters of 1993, 1994 and the recent (1989-93) averages. Totals may not add due to rounding.

| Jan-Jun | Source | Albacore | Skipjack | Yellowfin[1] | TOTAL |
|---|---|---|---|---|---|
| 1993 | DOMESTIC | 1,800 | 77,600 | 22,800 | 102,200 |
| | IMPORTED | 41,900 | 36,600 | 20,000 | 98,500 |
| | TOTAL | 43,800 | 114,200 | 42,800 | 200,800 |
| 1994 | DOMESTIC | 800 | 66,700 | 18,200 | 85,600 |
| | IMPORTED | 50,700 | 31,600 | 27,900 | 110,200 |
| | TOTAL | 51,500 | 98,300 | 46,000 | 195,800 |
| 1989-93 Average | DOMESTIC | 3,500 | 58,700 | 36,300 | 98,500 |
| | IMPORTED | 44,700 | 52,000 | 28,800 | 125,600 |
| | TOTAL | 48,200 | 110,800 | 65,000 | 224,000 |

[1]May include a small amount of bigeye tuna.

**Table 5.** U.S. cannery imports (st) of tuna by species and source (flag of catcher vessel) for the second quarter of 1994. Totals for the second quarter of 1993 are given for comparison. Note that the flag of the catcher vessel does not necessarily reflect the country of export or point of shipment. Totals may not add due to rounding.

| VESSEL FLAG | 1994 | | | | 1993 |
|---|---|---|---|---|---|
| | Albacore | Skipjack | Yellowfin[1] | TOTAL | TOTAL |
| ECUADOR | 0 | 1,100 | 2,400 | 3,600 | 0 |
| FRANCE | 400 | 5,100 | 5,800 | 11,300 | 9,600 |
| GHANA | 0 | 1,000 | 200 | 1,100 | 2,900 |
| JAPAN | 5,900 | 0 | 0 | 5,900 | 6,400 |
| NEW ZEALAND | 1,200 | 200 | 0 | 1,400 | 700 |
| PANAMA | 200 | 300 | 500 | 1,000 | 3,700 |
| SOLOMON ISLANDS | 0 | 400 | 200 | 700 | 0 |
| SOUTH AFRICA | 2,600 | 0 | * | 2,600 | 3,100 |
| SOUTH KOREA | 300 | 3,600 | 1,600 | 5,400 | 1,300 |
| SPAIN | * | 800 | 600 | 1,500 | 5,300 |
| TAIWAN | 14,500 | 1,700 | 900 | 17,100 | 18,500 |
| VANUATU | 0 | 200 | 400 | 500 | 700 |
| UNKNOWN | 100 | 300 | 200 | 700 | 1,200 |
| OTHER | 300 | 700 | 800 | 1,800 | 7,100 |
| TOTAL | 25,500 | 15,500 | 13,600 | 54,500 | 60,400 |

*Less than 100 st reported for this category.

of 1994, imports of canned tuna totaled 78,300 st, up 45% from the previous year.

## U.S. TUNA FISHERIES UPDATE

### EASTERN PACIFIC TROPICAL TUNA FISHERY

During the period January through September 1994, 12 U.S. tuna purse seiners participated in the eastern tropical Pacific tuna fishery and caught an estimated 11,900 metric tons (mt) of yellowfin tuna and 10,500 mt of skipjack tuna (Figure 1). The yellowfin tuna catch was down 10% from the 1993 catch (13,200 mt), and the skipjack tuna catch was down 20% from the 1993 catch (13,100 mt). The fleet continues to be affected by "dolphin safe" policies and concentrated its effort on tunas not associated with dolphins. The 1994 U.S. allowable quota of 114 dolphin mortalities, established by the U.S. International Dolphin Conservation Act, was reached on February 7. Since then, the taking of dolphins by U.S. tuna purse seiners in the eastern tropical Pacific has been prohibited for the remainder of the year.

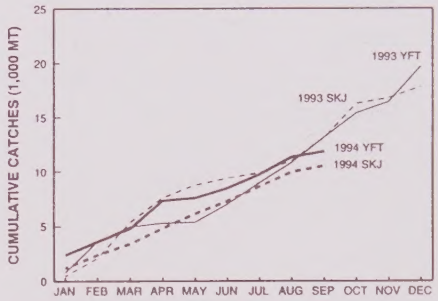


**Figure 1.** Cumulative tuna catches, by month, for the U.S. eastern Pacific purse seine fishery, 1993 and 1994.

### WESTERN PACIFIC TROPICAL TUNA FISHERY

In 1993, 42 U.S. tuna purse seiners registered to fish in the western tropical Pacific under the South Pacific Tuna Treaty landed an estimated 142,200 mt of skipjack tuna and 45,700 mt of yellowfin and bigeye tuna (Figure 2). The skipjack tuna landings were down 10% from the 1992 landings for the same period (158,000 mt) and the combined yellowfin and bigeye tuna landings were down 9% (from 50,000 mt). In 1992, 46 U.S purse seiners participated in the fishery. *(Report provided by Doug Prescott, NMFS Southwest Fisheries Science Center, La Jolla, CA)*

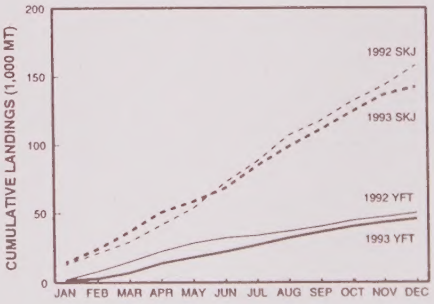


**Figure 2.** Cumulative tuna landings, by month, for the U.S. western tropical Pacific purse seine fishery, 1992 and 1993.

**Table 6.** Receipts (st) of tuna by U.S. canneries by species and area of capture for the second quarters of 1993 and 1994. Totals may not add due to rounding.

| SOURCE | Albacore | | Skipjack | | Yellowfin[1] | |
|---|---|---|---|---|---|---|
| | 1993 | 1994 | 1993 | 1994 | 1993 | 1994 |
| **E. ATLANTIC OCEAN** | | | | | | |
| DOMESTIC | 0 | 0 | 0 | 0 | 0 | 0 |
| IMPORTED | 7,500 | 7,300 | 12,300 | 2,900 | 4,600 | 1,300 |
| TOTAL | 7,500 | 7,300 | 12,300 | 2,900 | 4,600 | 1,300 |
| **W. ATLANTIC OCEAN** | | | | | | |
| DOMESTIC | 0 | 0 | 0 | 0 | 0 | 0 |
| IMPORTED | 4,900 | 6,400 | 0 | * | 100 | * |
| TOTAL | 4,900 | 6,400 | 0 | * | 100 | * |
| **E. PACIFIC OCEAN** | | | | | | |
| DOMESTIC | * | 0 | 3,600 | 2,700 | 1,100 | 2,900 |
| IMPORTED | * | 100 | 1,100 | 1,500 | 0 | 3,300 |
| TOTAL | * | 100 | 4,700 | 4,100 | 1,100 | 6,200 |
| **W. PACIFIC OCEAN** | | | | | | |
| DOMESTIC | 500 | 500 | 32,500 | 30,200 | 11,500 | 5,100 |
| IMPORTED | 9,100 | 9,700 | 9,100 | 6,300 | 2,700 | 3,100 |
| TOTAL | 9,700 | 10,200 | 41,600 | 36,500 | 14,200 | 8,200 |
| **INDIAN OCEAN** | | | | | | |
| DOMESTIC | 0 | 0 | 0 | 0 | 0 | 0 |
| IMPORTED | 2,900 | 2,000 | 2,900 | 4,700 | 3,200 | 5,900 |
| TOTAL | 2,900 | 2,000 | 2,900 | 4,700 | 3,200 | 5,900 |

*Less than 100 st reported for this category.

[1]May include a small amount of bigeye tuna.

**Table 7.** U.S. commercial landings of Atlantic bluefin tuna for 1994 through October 21.

| Category | # of Fish | Avg. Wt. (lbs.) | Gross Wt. (mt) | Quota (mt) |
|---|---|---|---|---|
| GENERAL | 3,842 | 366 | 638 | 531 |
| Handline | 1,363 | 380 | 235 | |
| Rod & Reel | 2,429 | 358 | 395 | |
| Harpoon | 50 | 381 | 9 | |
| HARPOON | 358 | 362 | 59 | 53 |
| INCIDENTAL | 370 | 514 | 86 | |
| N. Longline | 104 | 427 | 20 | 23 |
| S. Longline | 252 | 561 | 64 | 86 |
| Other | 14 | 317 | 2 | 4 |
| PURSE SEINE | 1,665 | 390 | 294 | 301 |
| Giant | 1,600 | 394 | 286 | |
| Large Medium | 65 | 278 | 8 | |
| TOTAL | 6,235 | 381 | 1,078 | 998 |

## NORTHERN PACIFIC ALBACORE FISHERY

The mid to late season U.S. North Pacific albacore fishery remained productive for most vessels. During August through October the fishery separated into two major production areas: one off coastal northern California, Oregon, Washington and southern British Columbia, and another approximately 1,000 miles west of Oregon.

Offshore vessels reported good fishing with consistent catch rates of approximately 1 mt per day with sporadic catch rates exceeding 5 mt per day. Catches near shore were also good with 1/2 to 1 mt catch rates common. The coastal fishery was close enough to shore to attract a considerable number of salmon trollers which, in most years, have difficulty reaching the bulk of the albacore resource 200 to 400 miles offshore. The average size of albacore is close to 8 kg, with 11 kg fish common in catches. As of mid-October many vessels remain fishing and are likely to continue until the first major storms disrupt albacore availability. *(Report provided by Norman Bartoo, NMFS Southwest Fisheries Science Center, La Jolla, CA)*

## WESTERN ATLANTIC BLUEFIN TUNA FISHERY

As of October 21, the total U.S. commercial landings of Atlantic bluefin tuna for 1994 stood at 1,078 mt. A summary by category of cumulative landings is given in Table 7. *(Report provided by Kevin B. Foster, NMFS Northwest Region, Gloucester, MA)*

# REPORTS

*Editor's note: Original reports are published as a service to subscribers and may not represent the views of the NMFS. Readers should contact the authors of reports for details, if needed.*

## AN EFFICIENT WAY OF BAIT-FISHING FOR TUNAS RECENTLY DEVELOPED IN SENEGAL

*Alain Fonteneau, Chercheur ORSTOM, 213 Rue Lafayette 75010 Paris, France*

### Introduction: A New Fishing Method

The tuna baitboat fishery based in Dakar, Senegal (West Africa), has been operating permanently in that area since the beginning of the

1950s. This fleet's catch has fluctuated without trend at a yearly level of about 10,000 mt, although the number of active baitboats steadily decreased during recent years. The fishing zone is located off Senegal and Mauritania (Figure 3). The stability of catches was obtained through a dramatic and surprising increase in the catch rates.

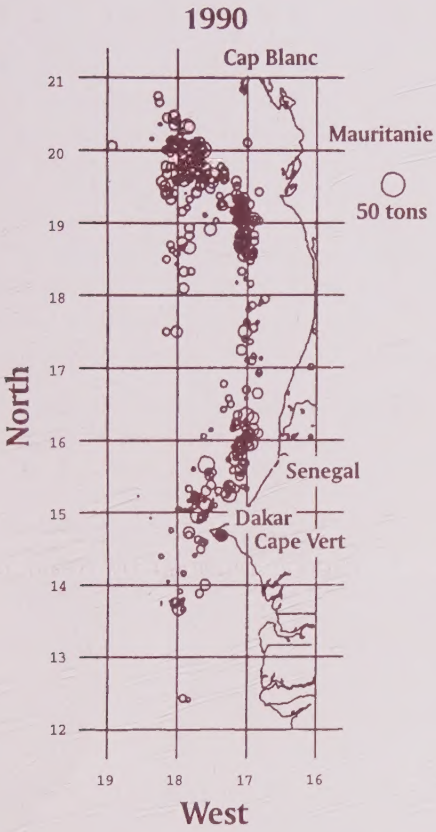


**Figure 3.** Fishing areas of the tuna baitboat fleet based in Dakar, Senegal, in 1990. Each circle is proportional to a daily catch.

The major change in the fishery (which accounts for the increased catch rates) was a change in the fishing method that the skippers of the Dakar baitboats have developed and refined since the beginning of the 1980s. In this new fishing method, the fishing operations are conducted by a team of two cooperating baitboats:

- At the beginning of the fishing season (usually June or July), a first baitboat (Boat A) will search for a tuna school. When a school is located, the skipper, instead of starting the fishing operations, will associate the school "permanently" to his boat. The baitboat will keep moving with the tuna school to "strengthen" this association and increase the size of the school. Thereafter, the fishermen start their fishing operations and fishing is conducted for an extended period (months), keeping the tuna school under the boat and catching tunas every day.
- When Boat A has reached its full load of tunas, the other cooperating baitboat, Boat B (with empty holds), will approach its colleague boat associated with the tuna school, and the association with the tuna school will be exchanged from Boat A to Boat B. A fast maneuver is made to exchange positions (usually at night).
- Boat B will then commence fishing operations until reaching its full load. At that point, if Boat A is not yet ready to "catch" again, Boat B will wait for it (moving with the school).

When they are associated with a school, the baitboats are always moving at a slow speed of approximately 1 knot. However, at the end of the fishing season, when upwelling has developed off Mauritania, the speed of the school and baitboat association often increases and may reach 3 to 5 knots for several hours or even days.

## Species and Sizes of Tunas Caught

Four species of tunas are usually exploited in various proportions in this baitboat fishery: yellowfin (*Thunnus albacares*), skipjack (*Katsuwonus pelamis*), bigeye (*Thunnus obesus*) and black skipjack (*Euthynnus affinis*). The black skipjack are always dumped. The average relative contribution of the first three species in the baitboat catches during the period 1980-1991 was 37.5% yellowfin, 33.8% skipjack and 28.7% bigeye.

The average sizes (1980-1991) of the tunas caught by this fishery were as follows: skipjack was the smallest species with an average weight of 2.4 kg, followed by yellowfin (6.8 kg) and bigeye (10.4 kg). The overall size range was approximately 2 to 30 kg.

## Environment and Fishing Zones

The dominant characteristic of the environment in the area of Mauritania and Senegal is the marked seasonality of sea surface temperatures (SST); in Dakar, the average SST fluctuates between less than 20°C during winter (because of a wind driven upwelling) and 28°C in summer. This environmental seasonality forces the tunas to undertake an intensive seasonal north-south migration in the area. The fishery takes place in warm waters (SST predominantly between 24° and 28°C) south of Cape Blanc, Mauritania. These warm waters are located immediately south of the colder waters of the Cape Blanc front.

All skippers' accounts conclude that color and transparency of the water are very important factor in the associated-school fishing mode. It would appear that the baitboat skippers constantly move their boats to remain in blue and green waters, where moderate transparencies are observed. They constantly avoid:

- areas with clear and transparent waters: those waters are usually the oceanic waters which are less productive and have less food available for the tunas;
- areas with turbid waters, which are common in the coastal upwelling area. The avoidance of turbid waters by the tunas is a well described and well understood behavior. Most tunas are active visual predators, and they need to locate their prey visually.

### Dynamics of the Tuna Aggregation and Exploitation

The average daily catch rate is high, averaging 5.6 mt per fishing day during recent years (1988-1991). Specific daily catch rates from associated schools can be very high: a CPUE of 10 to 20 mt per fishing day is commonly observed. Significant catches are observed every day; fishing days without any catch are extremely rare in this fishery, whereas such days are often observed in the traditional baitboat fishery. The total catch from a given school during a fishing season (usually 6 months) can reach or even exceed 1,000 mt.

### Why this Association of the Tuna School with the Baitboat?

The initial association of tuna schools with the baitboat is not fundamentally due to the search for food by the tunas. In fact, most of these schools can reach a biomass of several hundred tons, when only a limited amount of food is available for this huge tuna biomass in the immediate vicinity of the moving boat. This association between individual fishes and the boat is probably a temporary one, each fish temporarily leaving the boat in search of food in the vicinity of the baitboat. Another important factor is that, during the night, the tuna school is kept under the boat by the use of powerful lights reaching 25,000 watts; these lights attract a large biomass of food, eaten by the tunas during the night.

### Further Research is Necessary

The new associated-school fishing method developed during recent years by the local baitboat fleet from Dakar is probably unique in the world. Its impact upon the local tuna fishery has been very significant. This method, which developed an optimal use of some peculiarities of tuna behavior, is now conducted as a "scientific" technique, efficiently conducted by experienced tuna fishermen in order to increase their catch rates.

This new associated-school fishing is, to some extent, a technique of "off-shore sea ranching" for tunas, in which wild schools of tunas are temporarily kept "in captivity" by the fishermen during several months--sometimes more than one year--while covering several hundred nautical miles. Another comparison, drawn by the fishermen themselves, is that the baitboat is moving with its tuna school like a shepherd moving permanently with a flock of sheep.

Further scientific analysis would be necessary to evaluate more precisely the importance of local environmental parameters on this associated-school fishing. At this stage, it remains unknown if this associated-school fishing can be efficiently used in other areas of the Atlantic or in other oceans under other environmental conditions.

A research program will be developed soon in Dakar (starting in 1995) by French and Senegalese scientists to better understand all the peculiarities of this unique fishery, for example, those concerning the schooling and feeding behavior of the fish, the effects of environmental parameters, the dynamics of the tuna and baitboat association, etc.

## NEW BLUEFIN TUNA REGULATIONS: THE SOUTHERN CALIFORNIA EXPERIENCE

*Patricia Donley, NMFS Southwest Region, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213*

The United States, as a member of the International Commission for the Conservation of Atlantic Tunas (ICCAT), has agreed to implement recommendations made by ICCAT that will lead to improved management and monitoring of Atlantic bluefin tuna. These recommendations call for the establishment of a system that will allow the National Marine Fisheries Service to quantify and track all bluefin tuna shipments into and out of the United States.

In order to meet its commitment to ICCAT, NMFS published proposed regulations that, for the first time, included requirements for documenting export shipments of Pacific as well as Atlantic bluefin tuna. The proposed regulations, published in June, 1994, required Pacific bluefin tuna dealers to obtain an export permit, tag individual fresh and frozen bluefin for export, prepare a Bluefin Statistical Document (BSD) for each shipment, and provide the NMFS with a copy of each BSD as well as a bi-weekly report of all export shipments.

ICCAT member-nations agreed to begin requiring documentation of bluefin tuna imports as of June 1, 1994, and although final U.S. regulations had not yet been published, the NMFS began issuing dealer permits to Pacific bluefin tuna dealers so that export trade in Pacific bluefin tuna would not be interrupted. A total of 21 permits were issued to eleven Southern California dealers, eight Hawaiian dealers, and two dealers at Guam.

During the period from July 29 through October 5, 1994, Southern California dealers exported over 700,000 pounds of fresh and frozen Pacific bluefin tuna to Japan and Italy. Because Pacific bluefin tuna are smaller than their Atlantic cousins and are caught in greater numbers, the NMFS decided to require U.S. government validation of Pacific bluefin export documents in lieu of fish tags. However, it soon became apparent that the validation requirement may not provide NMFS with any more reliable information than the receipt of timely reports does.

As the result of the experience gained between July and October, 1994, and comments received at

public hearings that were held in Hawaii and in California, the NMFS is giving serious consideration to reducing the fish tagging or government validation requirements for Pacific bluefin tuna. However, the final decision on these issues has not been made pending consultation with ICCAT and other member nations and publication of a final rule, expected by mid-November.

*An abstract from a recently published paper written by a SWFSC scientist is presented in this space to announce its availability and to report results of tuna research conducted by Center staff.*

## RECENT SWFSC PUBLICATION: "THE DEVELOPMENT AND DECLINE OF HAWAII'S SKIPJACK TUNA FISHERY"

*Boggs, C. H., and B. S. Kikkawa. 1994. In G. W. Boehlert (ed.), The fisheries of Hawaii and U.S.-associated Pacific Islands. Marine Fisheries Review 55(2):61-68*

The pole-and-line fishery for skipjack tuna, *Katsuwonus pelamis*, was the largest commercial fishery in Hawaii until its decline in the 1970s and 1980s. The development and decline of the fishery were strongly affected by fish availability and marketing. A sustained drop in the availability of large fish in the mid-1970s appears to have been due in part to a sustained environmental change. Availability of large fish subsequently increased, but the fishery continued its decline due to low profitability and lack of markets. The tuna cannery in Honolulu that fostered the fishery's expansion in the 1930s closed in 1984. Unless efforts to increase the market for skipjack tuna become effective, landings will probably remain at current levels of about 1,000 metric tons per year. The existing pole-and-line fleet may continue to decline with age, and the local market may eventually be supplied by other fishing methods (for example, trolling), by new vessels, or by imports.

# RECENT DEVELOPMENTS IN TUNA FISHERIES

*Editor's note: The following news items, compiled from fishery trade and industry journals, newspapers and NMFS reports, are provided only as a service to our readers. The NMFS does not guarantee their accuracy.*

## UNITED STATES

**American Firm to Obtain 68% Share in French Tuna Company--** The French fisheries journal *Le Marin* reported that StarKist of the U.S. was preparing to take a controlling share in the French tuna firm COBRECAF by purchasing SOPAR-Cofibois which has a 32% share in COBRECAF. COBRECAF owns 13 tuna seiners and five freezer cargo vessels which produce 60,000-70,000 mt annually, contributing significantly to the French tuna industry. At present Starkist has a 30% share in the company. The French tuna industry is in an unsettled situation as a result of competition from the Asian tuna industry and is hindered by the trade policies of the European Union with regard to imports and customs duties. As a result, the fishing companies and canners are forced to regroup themselves to gain economies of scale and regular supplies. Should StarKist's proposal to purchase SOPAR-Cofibois go through, it may mean that it will have a 68% share in COBRECAF, giving it a leading position in the French canning industry. (INFOFISH *Trade News*, October 1, 1994)

**U.S. Bans Yellowfin Tuna Imports from Colombia and Vanuatu--** The U.S. Government has imposed an embargo on all yellowfin tuna harvested in the eastern tropical Pacific by purse seiners under the flags of Colombia or Vanuatu. The action is in response to a concern over the protection of northeastern offshore spotted dolphins, a stock of marine mammals that has been declared to be depleted under the Marine Mammal Protection Act and which are caught in the process of purse seine fishing for yellowfin tuna. Under the MMPA, every nation that purse seines for yellowfin tuna in the ETP and exports that fish to the U.S. is required to have a marine mammal protection program that is comparable to the U.S. program. (Only last May did the U.S. lift a previously imposed yellowfin tuna embargo against Colombia that had been in place for two years.) (U.S. Department of Commerce, October 3, 1994)

## JAPAN

**Japanese Pacific Bluefin Catch--** Japanese industry sources report good catches of Pacific bluefin tuna during the 1994 season in coastal Japanese fishing grounds. Catches by longline, set net, and purse seine fishermen have increased all over the country, particularly in Hokuriku (central Honshu on the Sea of Japan coast), Wakayama (southwestern Honshu), Shiogama (northeastern Honshu),and Kyushu fishing grounds. Catches in the Hokuriku set net fisheries are posting post-World War II records, with more than 1,000 tuna being landed in Toyama Prefecture on a good catch day. As a result of this increased supply, bluefin tuna prices have fallen more than 50% below the 1993 price in some markets. The bluefin being caught so far this season are on the small side, with the tuna flesh sometimes low in oil content. (NMFS from *Nikkan Suisan Keizai Shinbun*, June 10, 1994)

**Bluefin Tuna Enhancement Program--** The Fisheries Agency of Japan is continuing with its research in the bluefin tuna stock enhancement program. The objective of this program is to artificially incubate tuna fry and raise them to the juve-

nile stage before releasing them into the ocean. The private sector is also involved in similar research. Maruha Corporation researchers successfully incubated and hatched bluefin tuna eggs in 1992 and 1993, but have been unable to raise tuna beyond this stage. In the FAJ program wild-caught bluefin tuna are kept in pens and are expected to spawn on reaching 5 years of age in 1995. Meanwhile, the Japanese Overseas Fisheries Corporation Foundation is reported to have successfully incubated and hatched bluefin tuna fry at its joint stock enhancement project in Morocco, the first of its kind to take place outside of Japan. (INFOFISH *Trade News*, August 16, 1994)

**Japanese Imports of Fresh Sashimi-Grade Tuna--** Japanese sashimi-grade tuna imports have traditionally been dominated by frozen product caught by South Korean and Taiwan longliners. Until the late 1980s, shipments of fresh tuna to Tokyo were predominantly high-value Atlantic bluefin tuna caught in North Atlantic and Mediterranean fishing grounds. The decreased availability of bluefin tuna in recent years has made it a high-priced luxury item reserved for expensive Japanese hotels and restaurants. As a result, alternative species, such as Pacific yellowfin and bigeye, are being marketed increasingly in Japan's mass-market venues, such as sushi chain restaurants and supermarkets. Imports of these species from Southeast Asia and the South Pacific have increased 64%, from 39,000 mt in 1989 to 63,000 mt in 1993. The rapid emergence of the Chinese tuna longliner fleet has been especially remarkable, with catch increasing from zero in 1989 to over 7,000 mt in 1993. Japanese industry sources estimate that a total of 600-700 small tuna longliners from Taiwan and China are operating in the South Pacific; 230 vessels in Palau, 90 vessels in Yap, Micronesia, 120 vessels in Guam, over 200 vessels in Pohnpei, Micronesia, and approximately 100 Taiwan vessels in Indonesia. These industry sources expect China, as part of its distant-water fisheries development policy, to form a distant-water fisheries association and become involved in frozen sashimi-grade tuna fisheries sometime in the near future. (NMFS from *Nikkan Suisan Keizai Shinbun*, July 25, 1994)

## WESTERN PACIFIC

**ADB Tuna Aid--** The Asian Development Bank has recently approved a technical assistance grant of $495,000 to help the 11 countries of the Pacific Island Developing Member Countries (PIDMCS) as well as Papua New Guinea (PNG) in the development of a tuna industry. According to the ADB, fisheries (especially tuna) constitute the primary resource of most Pacific island countries which, unfortunately, lack the technology and expertise to develop proper industries. As a result, the tuna resources are almost exclusively being harvested by vessels from developed countries; foreign vessels accounted for almost all of the one million mt of tuna harvested from the South Pacific in 1992. The technical assistance grant will be used to evaluate tuna development in the PIDMCS and PNG in order to improve private and public sector capabilities to plan and establish private sector tuna enterprises as well as joint ventures. The new activities should all generate transfer of technology and skill, employment, local food supply as well as exports. (INFOFISH *International*, May/June 1994)

**Marshall Islands-China Cooperation--** The Marshall Islands Development Authority signed a memorandum of understanding with the China Shanghai Corporation for Foreign Economic and Technical Cooperation to bring in 50 longliners for tuna fishing in the Marshall Islands waters. This will help to strengthen the present tuna fleet which consists of 13 local boats. Present landings from these boats are being exported by air to Hawaii and Japan using Air Marshall Islands' twice-a-week flights to Honolulu. (INFOFISH *Trade News*, August 16, 1994)

**Investment in Marshall Island Longline Fleet--** In an effort to increase the size of the local longline fishing fleet and to complement the anticipated influx of Chinese longliners, the Marshall Island government is planning to provide an allocation of $10 million to the industry. A proposal to build 30 new longliners in the U.S. to be partially financed by an American company is being looked into. (INFOFISH *Trade News*, August 16, 1994)

**Indonesian Tuna Longliner Fleet Expansion--** The Pann Multi-Finance Company, the leasing arm of Indonesia's Finance Ministry, has recently concluded a $200 million contract to purchase 31 tuna longliners from Spanish manufacturers. Financing for the vessel purchase consists of $100 million in credits from the Spanish Government, and a $100 million loan from Spain's second-largest bank, Banco Bilbao Vizcaya. The first 8 vessels will be built in sections in Spain, and then shipped for final assembly at an Indonesian shipyard in South Sulawesi. The remaining vessels will be assembled in Indonesia, using Spanish-made kits, over the next five years at a number of private Indonesian shipyards. Ten of Indonesia's 20 major fishery companies have reportedly shown an interest in a lease-purchase agreement for the 31 longliners. With a storage capacity of 400 cubic meters each, the new vessels could form the basis of an Indonesian distant-water tuna longliner fleet. (NMFS from *Far Eastern Economic Review*, August 11, 1994)

**Korea-French South Pacific--** At fisheries talks, the Republic of Korea agreed to raise the total fishing fees to around $1.59 million for tuna fishing in French waters in the South Pacific, compared to $1.54 million in 1993. France consented to raise

the number of Korean fishing vessels from 60 to 74. Both also consented to put the tuna catch quota at 3,800 mt per year starting October 1, 1994. (GLOBEFISH *Highlight*, May/June 1994)

**A $35 Million Tuna Cannery for Chuuk--** A professional services contract has been executed between the State of Chuuk, Federated States of Micronesia and three California firms for the design of a $35 million tuna cannery to be built on Tonoas Island. The 307,500 sq. ft. cannery will be capable of processing 100 mt of tuna a day and will employ more than 1,000 Chuuk residents, making it the largest private sector employer in Federated States of Micronesia. The cannery also will become the largest business enterprise in the country, with annual sales estimated at more than $70 million a year. The state-of-the-art facility will be the first full-scale cannery in Micronesia. (GLOBEFISH *Highlight*, May/June 1994)

## EASTERN PACIFIC

**Mexican Tuna Catch Stable--** Mexican tuna fishermen reported relatively stable tuna catches in the eastern tropical Pacific (ETP) during the first six months of 1994. Mexican tuna fishermen harvested almost 62,000 mt of tuna, mostly yellowfin, through June 1994--only about 2,500 mt less than they did during the first half of 1993, when they caught 64,500 mt of tuna. Mexico's total share of the ETP catch, meanwhile, declined somewhat for the same January through June period, dropping from 39% in 1993 to 36% in 1994--primarily as a result of expanding catches by Ecuador and other Latin American countries. Mexican tuna industry representatives, however, expect 1994 to be "a good year" for the industry, thanks to higher international tuna prices, exports of "dolphin-safe" yellowfin to Europe, and greater efficiency within the processing sector. Even so, several vessel owners have reflagged or sold their vessels to other countries during 1993-94, including Belize, Ecuador, and Vanuatu. (NMFS from U.S. Embassy, Mexico City, August 12, 1994, and Mexican tuna industry sources)

## INDIAN OCEAN

**Mauritius-EU Fisheries Agreement--** The European Union's fishing rights in Mauritius have been renewed until November 30, 1996, through a new protocol recently concluded. The EU will pay $1.2 million over three years, plus an additional $460,000 for research programs and $120,000 toward scholarships and training in fisheries related disciplines. In return, tuna catches are fixed at 6,000 mt per year for 20 freezer vessels. (INFOFISH *Trade News*, August 3, 1994)

**Mauritius Free Port Zone Opens to Tuna Fleets--**Activities in the free port zone of Mauritius have been expanded to include tuna fleet operations and transhipment. Some 200 tuna vessels are expected in Port Louis annually as the necessary infrastructure for servicing, storage and transhipment are being put into place. (INFOFISH *Trade News*, August 3, 1994)

## EASTERN ATLANTIC

**Ghana Tuna Cannery Commissioned--** The refurbished and expanded Pioneer Food Cannery, a subsidiary of StarKist International, has been commissioned in Tema. The factory can now process 125 mt of raw tuna a day compared to the previous 50 mt. The company is designed to process 25,000 mt of tuna a year in a single shift. With the present annual domestic catch of 30,000-40,000 mt, about 5,000 mt would have to be imported in the first year to meet demand. (INFOFISH *Trade News*, July 15, 1994)

**Angola-EU Protocol--** A new protocol defining the fishing possibilities and financial compensation between the European Union and

## UPCOMING TUNA MEETINGS

(Organizer; meeting type: sci=science, adm=administration)

- OCT 31-NOV 4. Meeting of the Species Group of the Standing Committee on Research and Statistics (SCRS). Madrid, Spain. (International Commission for the Conservation of Atlantic Tunas; sci)
- NOV 21-25. Meeting of the Standing Committee on Research and Statistics. Madrid, Spain. (ICCAT; sci)
- NOV 27-DEC 2. Annual Meeting of the International Commission for the Conservation of Atlantic Tunas. Madrid, Spain. (ICCAT; adm)
- DEC 5-9. Multilateral High-Level Conference on South Pacific Tuna Fisheries. Honiara, Solomon Islands. (Forum Fisheries Agency; adm)
- DEC 11-14. International Symposium on Pacific Swordfish. Ensenada, Mexico. (Ensenada Center of Scientific Investigations and Higher Education (CICESE) and SWFSC; sci)
- JAN 23-31. Second FAO Expert Consultation on Interactions of Pacific Tuna Fisheries. Shimizu, Japan. (FAO; sci)
- APR 10-16. 14th North Pacific Albacore Workshop. Taipei, Taiwan. (Institute of Oceanography, National Taiwan University; sci)
- May 14-17. 46th Tuna Conference. Lake Arrowhead, CA. (IATTC & NMFS; sci).

Angola has been initialled. The agreement covers a 2-year period from May 3, 1994, to May, 2, 1996. Under the agreement, the following number of EU vessels would be allowed to fish in Angolan waters over the 2-year period: shrimp vessels, 22; demersal trawlers, 5; freezer tuna seiners, 19; surface longliners, 5. In return, the EU will provide a financial compensation of $1.7 million payable in two equal annual installments. In addition, the EU shall further provide $3.4 million for financing Angolan scientific and technical programs (equipment, infrastructure, monitoring, seminars, studies, etc). (INFOFISH *Trade News*, August 3, 1994)


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